



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

IM22/1123

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/093,001	06/08/98	001	OLSEN, K	1744 11/23/99
First Named Applicant DAVIS, 35 USC 154(b) term ext. = 0 Days.				

TITLE OF INVENTION PORTABLE, HAND-HELD, IN-SITU ELECTROCHEMICAL SENSOR FOR EVALUATING CORROSION AND ADHESION ON COATED OR UNCOATED METAL STRUCTURES

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
1	205-776.500	E71	UTILITY	YES	\$605.00	02/23/00

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No.

09/093,001

Applicant(s)

Davis et al.

Examiner

Kaj Olsen

Group Art Unit

1744



All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

☒ This communication is responsive to the interview of 11-12-99 and 11-17-99

☒ The allowed claim(s) is/are 3

☐ The drawings filed on _____ are acceptable.

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE **THREE MONTHS** FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☒ Applicant MUST submit NEW FORMAL DRAWINGS

☒ because the originally filed drawings were declared by applicant to be informal.

☐ including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. _____

☐ including changes required by the proposed drawing correction filed on _____, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

☒ Interview Summary, PTO-413

☒ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

☐ Examiner's Statement of Reasons for Allowance

B

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dr. Charles Dacres on 11-17-1999.

2. The application has been amended as follows: The original figure 2 filed on 6-8-1998 was canceled and replaced with the figure 2 filed by the applicants on 9-1-1999. ✓

Claims 1 and 2 were canceled. ✓

✓ Claim 3 was added.

3. (New) A method for early detection of electrochemical corrosion of a coated or an uncoated surface of a metal structure utilizing electrochemical impedance spectroscopy, comprising the steps of:

31 (a) providing an electrochemical impedance spectrometer, said spectrometer comprising a computer controlled potentiostat and a sensor device which comprises a metal tip, said sensor device functions as both a counter and reference electrode;

(b) placing the metal tip of the sensor device directly onto the top surface of the coated or uncoated surface of the metal structure;

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(c) wetting the surface of the metal structure around the metal tip with an electrolyte, the metal tip and the area covered by the electrolyte thereby defining a controlled detection area;

(d) applying an AC voltage from the potentiostat across the metal tip and the metal structure to be tested, the metal structure thereby functioning as a working electrode;

(e) measuring the resulting AC current thus obtaining a first reading;

(f) performing steps (d) and (e) at different frequencies of AC voltage to obtain multiple readings;

(g) calculating an impedance magnitude and phase for each obtained reading, thereby generating an impedance spectrum over the entire applied frequency range;

(h) comparing the generated impedance spectrum of the controlled detection area with the impedance spectrum of previously determined measurements of metallic structures in different stages of known surface corrosion to determine the stage of surface corrosion of the metal structure being tested.

Drawings

3. The application having been allowed, formal drawings are required in response to this Office action.

4. Formal drawings are now required and must be filed within the THREE MONTH shortened statutory period set for reply in the "NOTICE OF ALLOWABILITY" (PTOL-37 or PTO-37). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure

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to timely submit the drawings will result in **ABANDONMENT** of the application. The drawings should be submitted as a separate paper with a transmittal letter which is addressed to the Official Draftsperson. The art unit number, application number and number of drawing sheets should be written on the reverse side of the drawings.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaj Olsen whose telephone number is (703) 305-0506.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (703) 308-2920.

When filing a fax in Group 1700, please indicate in the header "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of this application. This will expedite processing of your papers. The fax number for this Group is (703) 305-7719.

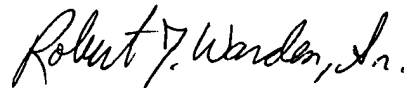
Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0661.

Kaj K. Olsen, Ph.D.



Patent Examiner

AU 1744



ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

FIGURE 2



<http://members.aol.com/gddaccosci/DACCOSCI.htm>